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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,571	07/07/2003	Yuichiro Ikemoto	9792909-5662	7482

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EXAMINER

NGUYEN, THINH H

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/614,571	Applicant(s) IKEMOTO ET AL.	
	Examiner Thinh H. Nguyen	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,18,19,28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7,18-19,28-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-7, 18-19, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (U.S. 6,386,668) in view of Allen et al. (U.S. 5,469,199)

Shimizu (fig.3) discloses the instant claimed line head of a printer having the head length equal to the width of recording paper for permitting fast printing, comprising:

at least one ink-ejecting mechanism (24), the at least one ink-ejecting mechanism having a printer head;

at least one head chip (231, 232, 233) formed on the printer head, the at least one head chip being formed in an array pattern on the printer head (23); and

a plurality of nozzles (23a) associated with one nozzle array and nozzles associated with an adjacent nozzle array overlap along at least one direction to form an overlapped area on a print object such that when the at least one ink ejecting mechanism drives across the print object the nozzles of the one nozzle array and the nozzles of the adjacent nozzle array respectively eject inks which are mixed in the overlapped area to reduce dot density differences on the print object, wherein the nozzles are placed on the nozzle plate almost as wide as the print object (col.1, lines

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16-18) to form the nozzle array in a direction perpendicular to the feeding direction of the print object.

Re claims 3, 4 limitations, it is apparent that nozzles in the overlapped areas (A-L, a-l; fig.28B) will be shifted such that a boundary is set when the print object is smaller than the overlapped areas.

Shimizu discloses the instant claimed subject matter with the exception of a nozzle plate; as many of said head chips as necessary for said predetermined colors said head chips aligned to form said print head; wherein said nozzles are formed on a nozzle plate;

as many of said nozzles as necessary for said head chips to be are formed; and as many of said nozzles as necessary for said predetermined colors are formed; and

as many of said plurality of head chips necessary for said predetermined colors are placed on said nozzle plate to form said printer head.

Allen et al. discloses a printhead 10 (col.6, lines 59+) comprises a plurality of dies 56 and a single nozzle plate 18 (fig.5) which may either contains a group of nozzles 20 of a single head unit (die) or a any number of groups correspond to the number of head units (dies) of a respective one ink color or may be another ink color (col.5, line 62 – col.6, line 6), extending in the direction of the print width of the printhead 10 in an overlapping (stack) manner (fig.3). As noted in col.4, lines 38-49 and suggested by Allen above, It is obvious that the nozzle plate and the number of nozzles can be extended and increased accordingly to meet the width of the print object and respective color demand, anywhere between approximately one-sixth inch and twelve inches.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the nozzle plate in Shimizu's printhead as such plate is inherently associated with most printheads. Further, the purpose of using the extended nozzle plate taught by Allen in Shimizu is to achieve precise alignment of the orifices which are arranged in the stacked manner as shown in figure 3.

Response to Amendment

Applicant's Amendment filed November 22, 2004 has been entered and carefully considered.

Applicants' arguments with respect to new issues that the claimed printer head having a print width and a plurality of nozzles arrays positioned on a single nozzle plate have been considered as noted in the above new grounds of rejection.

In response to Applicant's argument with respect to claims 28 and 29 that at least one ink ejecting mechanism for ejecting pre-determined colors of ink droplets from predetermined nozzles sequentially placed to form a head chip and as many of said head chips as necessary for said predetermined colors said head chip aligned to form said printer head, wherein said nozzles are formed on a nozzle plate, Allen (col.5, line 62 – col.6, line 6) suggest nozzle groups in one reservoir 12 can be associated with one ink color or may be with another ink color.

In response to Applicant's piecemeal analysis with respect to the Shimizu et al. reference which does not teach forming a plurality of nozzles within a plurality of nozzle arrays positioned on a nozzle plate, one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Patent Application Information Retrieval (PAIR)

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Contact Information

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Any inquiry concerning this communication should be directed to examiner Thinh Nguyen at telephone number (571) 272-2257. The examiner can generally be reached Mon-Wed, Thursday from 9:00A – 5:00P. The official fax phone number for the organization is (703) 872-9306.

The examiner supervisor, Dave Talbott, can also be reached at (571) 272-1934.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1782.



Thinh Nguyen

February 15, 2005

Thinh Nguyen
Primary Examiner
Technology Center 2800